bath, the developer, for two or three minutes. But the manufacturer's instructions should be followed carefully.

P. **Agitation** of the chemical is important throughout this period to bring fresh solution into contact with the print.

Q. After development, the print is transferred to the water rinse or stop bath which halts the action of the developer.

R. This stage only lasts for a few seconds. Then the print is moved to a fixing bath where it stays for up to 10 minutes.

S. Washing is the last stage of the cycle. It is absolutely vital since any residue of chemical salts left on the print will cause it to deteriorate.

T. Adding hypo clearing agent to the wash can reduce the washing time.

V. Control printing

A. The exposure made using the test strip as a guide should result in a good-quality print.

B. Some negatives, however, may demand individual treatment during exposure to correct selected areas that are too dense or too light.

C. With others, you may feel that using special effects, like gradual fading of the image into white at the edges (**vignetting**), or very high or low contrast, will give more meaning to the final print.

D. It is possible for parts of the image to receive more or less exposure by masking areas during the total exposure or during part of the exposure time.

E. Areas that are unexposed print as white, but any reduction in local exposure on a print will lighten the tone of the area ("dodging"). Conversely, any increase in exposure will darken it ("burning in").

F. This means that it is possible to control locally the tones in any area of a print. Although these techniques of "**dodging**" and "**burning in,**" as they are called, need practice and care, they are essential to master if you want to produce high-quality prints.

G. Many other ways of controlling the appearance of a final print are available, apart from those already mentioned.

H. You can create a soft-focus image by using a diffusing material during exposure. Or you can choose a high-key effect to give prominence to light tones or a low-key effect to produce dark tones.

I. It is also possible to expose the image through screens, bought or homemade.

VI. Drying and finishing

A. The simplest way to dry prints is to leave them on a flat surface in a warm room for several hours.

B. For quicker results, heat drying can be preferable.

C. The two main types of photographic paper are resin-coated and fiber-based.

D. **Resin-coated paper** is handled the same way as fiber-based paper during processing but requires much less time for washing.

E. It dries rapidly in warm air with good results.

F. **Fiber-based paper** can be heat-dried in either a flatbed drier or rotary glazer.

G. The flatbed type is inexpensive, and a number of prints can be dried at a time.

H. The time varies according to the temperature, but it does take several minutes.

I. The rotary type, expensive but ideal for commercial work, takes prints one by one, but dries and glazes within two minutes.

J. To dry and glaze fiber-based glossy prints with a flatbed drier, they must be squeegeed, emulsion side down, onto the glazing plate.

K. To make unglazed prints, the emulsion faces upwards and is covered by the cloth canopy.

L. Rapid dryers are made for resin-coated paper that dry one print very 30 seconds by blowing hot air over the surface of the paper.

M. Resin-coated glossy paper dries with a mirror glaze without requiring a glazer.

VII. Additional information

A. Simple retouching. Even if you take great care, blemishes on prints cannot always be avoided.

B. Unless they are very serious, they can

be removed with a little skill and the right tools. These are sharp scalpel, spotting medium, and very fine sable brushes.

C. White spots caused by dust can be removed by applying black spotting medium that is diluted to the correct tone.

D. Larger white blemishes can be filled in, dot by dot, with spotting medium.

E. On matt prints, a sharp HB pencil gives a better result.

F. Dark spots can be gently scraped away with the scalpel to leave white spots that can then be toned.

MATERIALS FOR STUDENTS

(Listed with activities)

SUGGESTED STUDENT ACTIVITIES

1. Using the negatives produced by the student in the previous unit, the student should make a contact print of all negatives.
2. Using the same negatives, the student should make a series of test strips from each negative.
3. Demonstrate the competencies needed in order to—
   a. place negatives in the enlarger;
   b. clean negatives prior to use;
   c. use the filter drawer to control illumination (if using polycontrast PC papers);
   d. produce the desired print magnification;
   e. obtain sharp prints from quality negatives;
   f. adjust lens aperture and timer to get the proper print exposure; and
   g. use enlarger easels to obtain the desired print size and shape.
4. Demonstrate the competencies needed in order to—
   a. properly prepare photographic chemicals needed for processing exposed print paper; and
   b. turn on, use and/or adjust, and turn off the following devices as required:
      1. enlarger
      2. timer
      3. print washer
      4. print dryer
5. Identify and recall the function of the following devices related to making enlargements:
   a. trays
   b. siphon
   c. print tongs
   d. thermometer
   e. graduate
   f. safelight
   g. easel
   h. negative carrier
   i. focus scope
   j. polycontrast (PC) filters
   k. photographic paper
   l. timer
   m. enlarger
6. Explain the importance of safety when using chemicals.
7. Identify the parts of an enlarger. Use the handout entitled "A Typical Enlarger."

Vocabulary Worksheet

1. enlarger

2. test strip

3. contact prints

4. agitation

5. dodging

6. burning in

7. vignetting

8. resin-coated paper

9. fiber-based paper

10. easel

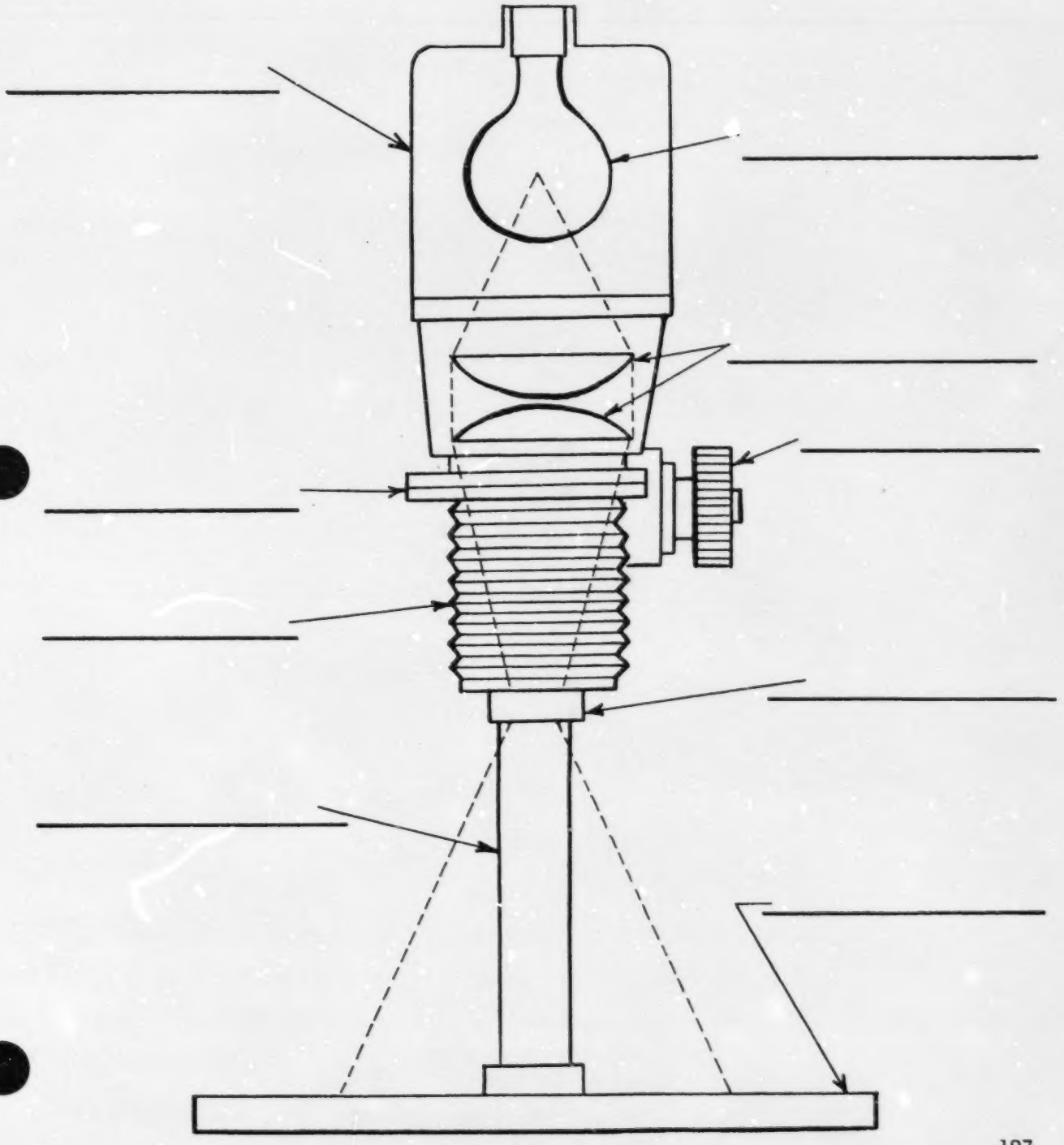
11. cropping

12. timer

13. polycontrast (PC) filters

14. negative carrier

A TYPICAL ENLARGER



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TEST

Unit 8: Print Development

Directions: Read each statement carefully. Select the one word or phrase that correctly answers or completes the statement, and write the appropriate letter in the blank.

Example: C 21. The class you are now attending is—

A. American Government
B. Language Arts
C. Industrial Arts
D. General Science

___ 1. An enlarger is used for all the following, except—

A. making test strips
B. making contact prints
C. making enlargement negatives
D. making enlargement prints

___ 2. The brightness of the image from an enlarger is controlled—

A. by the timer
B. by the placement of the printing easel
C. by the iris of the lens (f-stop system)
D. by the size of the lens

___ 3. Contact printing is recommended—

A. to determine which negative to enlarge
B. to determine which negatives were correctly exposed
C. to save on photographic paper and chemicals
D. all of the above

___ 4. A test strip is used to—

A. determine the strength of the chemicals
B. determine the correct exposure for the enlargement
C. determine the focusing level of enlargement
D. determine the density of the negative

___ 5. The recommended temperature for making prints is—

A. 65°F
B. 68°F
C. 72°F
D. 75°F

___ 6. Agitation refers to the—

A. movement of the paper under the enlarger
B. movement of the negative when exposing the paper
C. movement of the chemicals over the paper during development
D. movement of the hands when dodging or burning in

___ 7. Dodging is used when an area of the negative is—

A. too dark
B. too light
C. out of focus
D. in focus

___ 8. Burning in is used when an area of the negative is—

A. too dark
B. too light
C. out of focus
D. in focus

___ 9. The two main types of photographic papers are—

A. resin-coated paper, fiber-based paper
B. fiber-based paper, emulsion-coated paper
C. resin-based paper, fiber-porous paper
D. glazed paper, rotary paper

___ 10. The sequence for the development process of prints is—

A. stop bath, developer, fixer
B. fixer, developer, stop bath
C. developer, fixer, stop bath
D. developer, stop bath, fixer

___ 11. When using an enlarger, the size of the projected image is enlarged by—

A. lowering the enlarger head
B. raising the enlarger head
C. moving the paper to another easel
C. moving the negative to another carrier

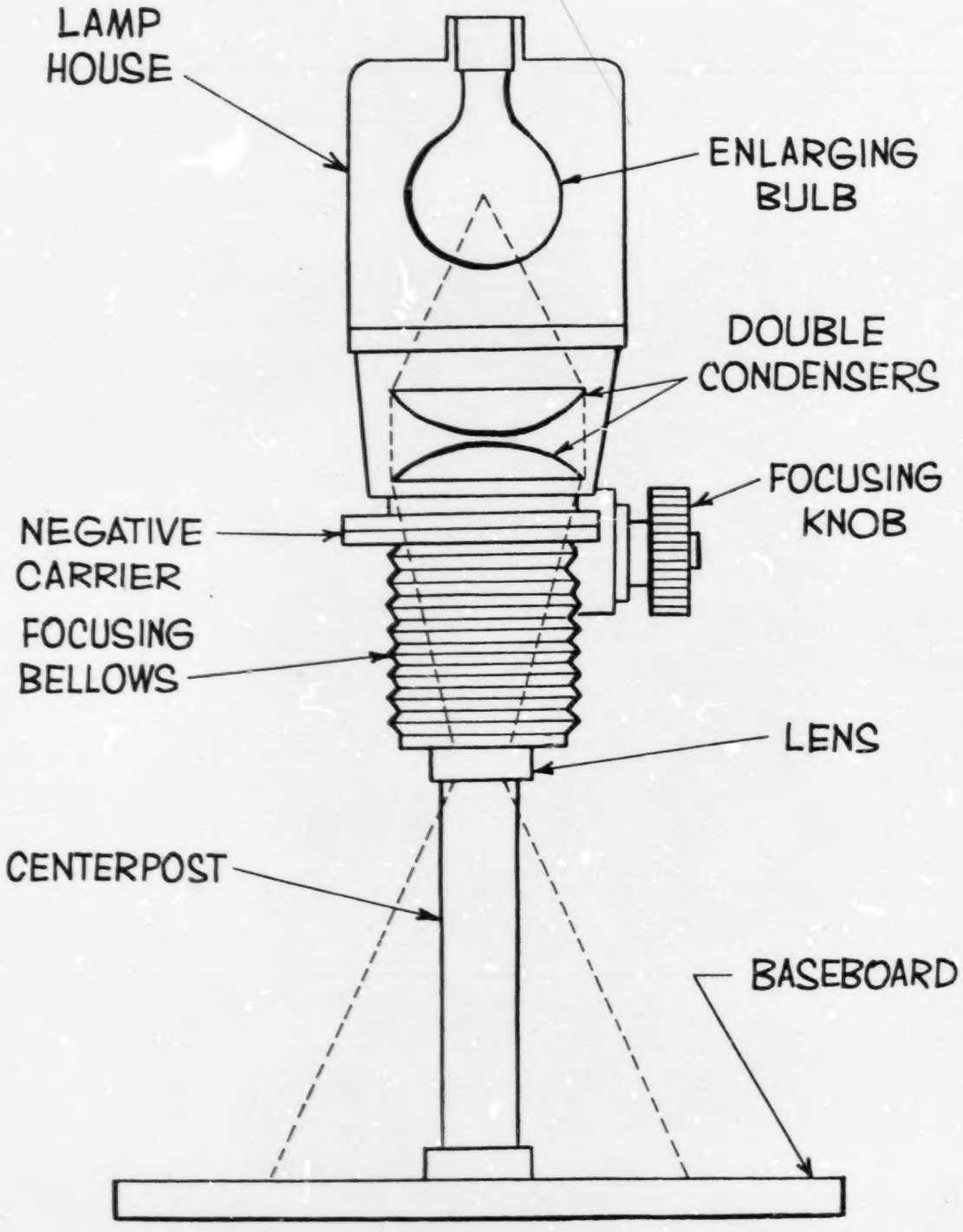
___ 12. The enlarging lens used for 35 mm negatives is the—

A. 50 mm
B. 75 mm
C. 125 mm
D. 150 mm

___ 13. The simplest way to dry prints is—

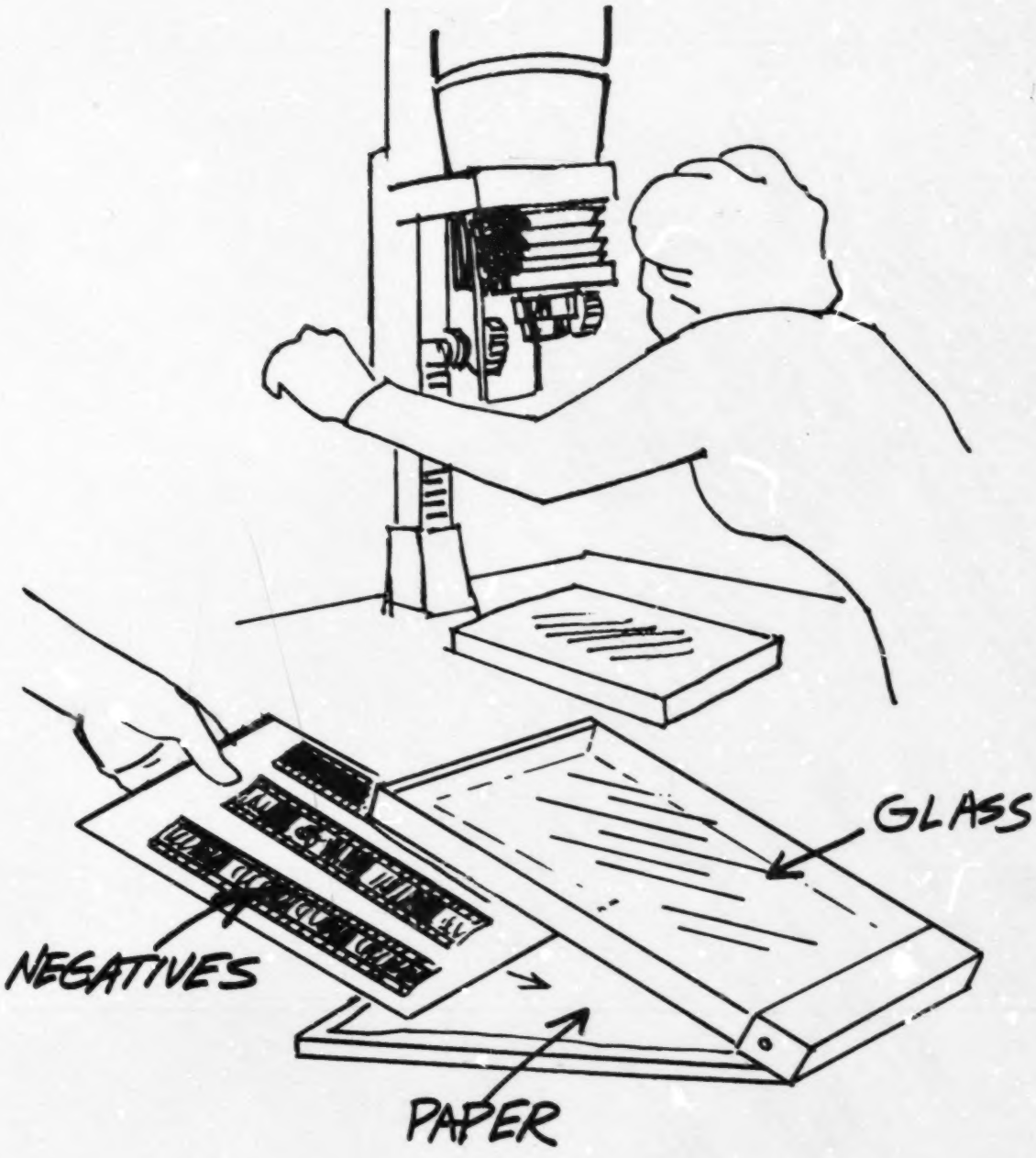
A. to leave them on a flat surface in a warm room
B. to use a flatbed drier
C. to use a rotary drier
D. to use a rapid drier

A TYPICAL ENLARGER

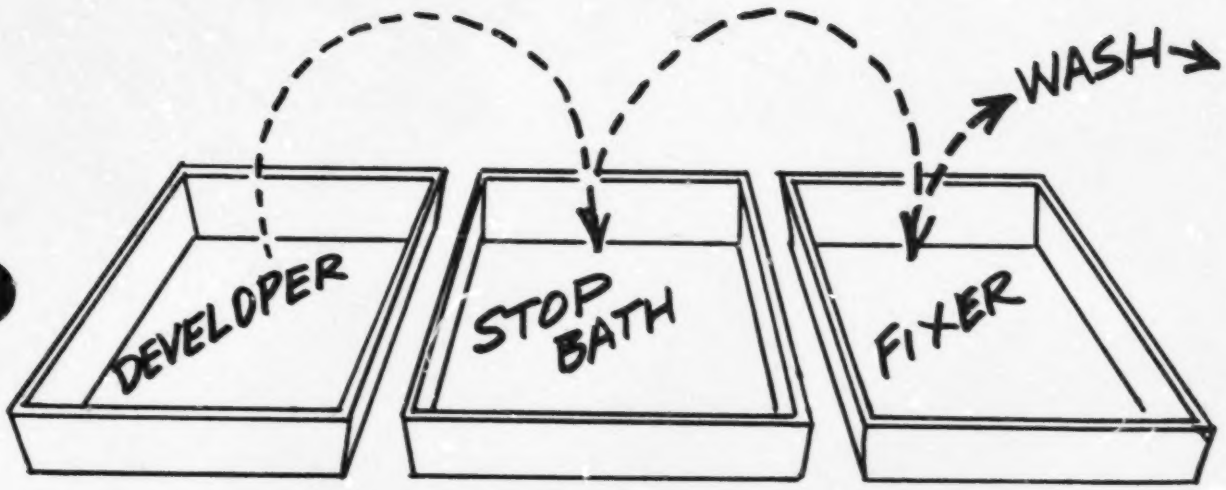


P8-1105

CONTACT PRINTING



TRAY DEVELOPMENT OF PRINTS



9 Print Finishing

OBJECTIVES

After students have covered the material in this unit, they should be able to—

1. explain the various methods for mounting prints;
2. identify the various materials that are used in mounting prints; and
3. demonstrate the proper procedure for mounting and exhibiting prints.

KEY WORDS: VOCABULARY

The words in the following list may be new to the student studying photography. Teachers should help students understand these words as they are used in this topic of study.

mounting cement	tacking
rubber cement	matt board
self-adhesive tissue	mounting press
dry mounting	

TEACHING AIDS

- Overhead projector
- Pointer
- Also, see Appendices A, B, and C.
- Test Key: 1-B, 2-A, 3-B, 4-D, 5-B, 6-D, 7-A, 8-B
- Examples of finished exhibition prints
- Transparencies: You will find transparencies P9-1 through P9-2B at the end of this unit. If you wish, these masters may be duplicated in quantity and given as handouts to the students studying different aspects of this unit.

P9-1: Mounting Using Mounting Cement
P9-2A, B: Dry Mounting Steps

SUGGESTED REFERENCES

Gerace, Phillip. Communication Photography. Englewood Cliffs, N.J.: Prentice-Hall, 1976.

Harris, Ross. Making Photographs. New York: Van Nostrand Reinhold Company, 1978.

Vestal, David. The Craft of Photography. New York: Harper & Row, 1974.

SENTENCE OUTLINE

I. Print mounting
   A. Since unmounted prints tend to curl and look rather nondescript, their appearance can be improved considerably by mounting them on tough cardboard or other sturdy supports.
   B. This also makes it possible to use prints for wall display.
   C. For this purpose, a technique called dry mounting is usually employed, though there are others.

II. **Mounting cement** (Trans. P9-1)
   A. Rapid mounting cement is a chemically inert glue made specially for mounting photographs. It is one of the very few cements that will not cause deterioration of silver images in the course of time.
   B. It is usually used for small prints or snapshots.
   C. To use, touch the nozzle to the back of the print, squeeze the tube gently, and draw a line around all four sides, about 1/8 inch from the edge. Then put a dot of cement in the center.
   D. After the cement has set slightly, mount the print, and rub it down with moderate pressure.
   E. To remove a mounted print, cover it with a sheet of paper and heat it with a warm (not hot) electric iron for about 15 seconds. Then immediately pull it up.

III. **Rubber cement**
   A. For mounting with rubber cement, give the back of the print and the mount card two coats each, letting both coats dry.
   B. Then cover the cemented area on the mount card with a sheet of paper, leaving uncovered only the narrow strip onto which the edge of the print will fit.
   C. Position the edge of the print, rub it down, and remove the paper.
   D. Then roll down the rest of the print onto the mount board and rub it lightly.
   E. Rub off the excess cement from around the print with a clean cloth.
   F. Because rubber cement contains sulfur, it will eventually bleach or stain silver images, perhaps in two or three years.

G. Thus, it is usually used only on prints made for reproduction, which don't have to hold up very long.

H. However, the longevity of a rubber-cemented picture can be increased considerably by sealing both the print and the cement against air with a clear, spray-can lacquer.

I. Give both the print and the back of the mount three coats.

J. This will effectively seal the picture in all directions.

K. Even so, one cannot expect archival permanence because lacquers will break down and change color with the passage of sufficient time.

IV. **Self-adhesive tissue**

A. You can now buy very sticky adhesive tissues for cold-mounting prints.

B. When you get such a tissue, it is backed on both sides with a heavy, slick paper that readily peels off.

C. Peel off one paper and stick the tissue to the matte board. Then peel off the other paper, lay the print down on the tissue, and rub it for tight contact.

D. The tissue is so extremely sticky that if you get your print down in the wrong place, you may have lost it, though there may be a chance of pulling it up again.

E. To lessen the possible danger, don't remove the backing papers all at once.

F. Pull the first paper back about 1/2 inch, and fold it over.

G. Then position the exposed strip of adhesive above the matte board, lower it, and rub it down.

H. Then pull the backing paper the rest of the way off, and roll the tissue onto the matte board.

I. Now, with a sharp knife and straightedge, cut a line along one edge of the top backing sheet, so that you get a strip about 1/4-inch wide. Then pull off the strip of paper. (The adhesive under it won't pull up).

J. Position the edge of the print above the adhesive strip, and rub it down.

K. Then pull off the rest of the backing paper, roll the print down, and rub it with a cloth.

L. Tissues of this sort are very convenient, especially if one doesn't own a mounting press. However, the adhesives used in them are usually not very good for print longevity, which may or may not matter to you.

M. However, they should be just fine for resin-coated (RC) papers, in which the emulsion is sealed off from the adhesive.

V. **Dry mounting** (Trans. P9-2 A, B)

A. Dry mounting involves using heat and pressure to weld together a print, a sheet of glue-impregnated paper (dry-mount tissue), and a support, usually a matte board.

B. The heat and pressure are supplied with either a household electric iron or a photographic **mounting press.** The latter is much more convenient.

C. The first step is to drive all the moisture out of both your prints and matte boards. This is done by putting them, one at a time, into a hot mounting press.

D. Each should be covered with a large sheet of clean, white paper so that dirt and mounting tissue on the heat platen won't be transferred to it.

E. Drying prevents prints and mounts from warping later.

F. The next step is called **tacking.** This simply refers to the use of heat to stick mounting tissue to the back of a print so that the tissue won't slide out of place. It also refers to temporarily sticking the tissue and print to a matte board so that they won't slide.

G. For tacking, one uses a photographic tacking iron, although a cheap electric soldering iron or the tip of a household electric iron will work just as well. But one shouldn't let a soldering iron get too hot, or it will scorch both tissue and print.

H. The best way to tack tissue onto a print is to make four "melt marks" with the iron, in the shape of a cross. Start each mark in the center of the print and extend it all the way out to the center of one side.

I. Press lightly with the iron, for too much pressure may make indentations that won't go away.

J. This part of the tacking can be done before you have trimmed your print.

K. Tack on the mounting tissue so that it doesn't come quite up to the edge of the print, leaving a border of a fraction of an inch.

L. You trim a tacked print just as you would trim one without the tissue. Use a paper trimmer or a straightedge and a very sharp wallboard knife.

M. Using a straightedge and knife, trim the other edges so that they have the same width of border, cutting only through the tissue but not into the print. The reason for the border is that, when mounting tissue melts in the press, it sometimes seeps out from under the edge of the print, which is unsightly.

N. Even with such a narrow border, it never spreads far enough to do this.

O. Now, position the trimmed print and tissue on the matte board for tacking, which you do by curling back two corners of the picture along one side and melting the tissue underneath to the board.

P. Tacking down more than two corners is not advisable, for it may lead to creases or folds in the print when it is pressed. The temperature of the mounting press should be between 200°F and 275°F.

Q. When there is no print in the press, keep it closed. Only the top platen has a heating element, so it must heat the bottom half.

R. Cover the print and the mount with clean white paper, place in the press, and close the top platen for at least 10 seconds (or longer, in the case of a thick mount).

S. When you remove a mounted print from the press, put it under a heavy weight until it has cooled off. This inhibits print warping. It also helps in the adhesion process when a print has come out of a very hot press, and the mounting tissue is still in the melted state.

T. If you have no mounting press, an electric iron will work quite well on double-weight prints of up to 8 x 10 inches.

U. You can do tacking with the point of the iron. But you should then remove the glue from it by rubbing it vigorously on a coarse cloth while it is still hot.

V. Center the print on the mount, tack it down, and cover it with a sheet of white paper for protection.

W. Then start pressing it down from one of the long sides, moving the iron along it in a circular movement and gradually moving it to the other side.

X. Starting in the middle of the print and gradually moving outward may also work. But it is not usually recommended.

MATERIALS FOR STUDENTS

- Matt board
- Proper adhesive tissue or adhesive material
- Mounting press or electric iron
- Tacking iron

SUGGESTED STUDENT ACTIVITIES

1. Have students select specific prints to mount.
2. Allow students to try the various approaches to mounting prints.

Vocabulary Worksheet

1. mounting cement

2. rubber cement

3. self-adhesive tissue

4. dry mounting

5. tacking

6. matt board

7. mounting press

TEST

Unit 9: Print Finishing

Directions: Read each statement carefully. Select the one word or phrase that correctly answers or completes the statement, and write the appropriate letter in the blank.

Example: C 21. The class you are now attending is—

A. American Government
B. Language Arts
C. Industrial Arts
D. General Science

___ 1. Mounting cement is used mainly on—

A. large prints
B. small prints
C. exhibition prints
D. salon prints

___ 2. Rubber cement will—

A. bleach or stain the print in two or three years
B. not bleach or stain the print in two or three years
C. not harm the print
D. improve the image of the print

___ 3. Self-adhesive tissue—

A. requires heat
B. does not require heat
C. should not be used with RC paper
D. does not require any pressure

___ 4. Dry mounting involves—

A. using a dry matt board and a dry print
B. using pressure to weld together a print on a matt board
C. using heat to weld together a print on a matt board
D. using heat and pressure to weld together a print on a matt board

___ 5. In dry mounting, the first step is—

A. to drive all the heat out of the print and mount board
B. to drive all the moisture out of the print and mount board
C. tacking
D. folding the tissue to make the correct creases

___ 6. Tacking refers to the—

A. hanging of the finished print on the wall
B. approach to reach the front of the line to use the mounting press
C. use of heat to stick mounting tissue to the back of a matt board
D. use of heat to stick mounting tissue to the back of a print

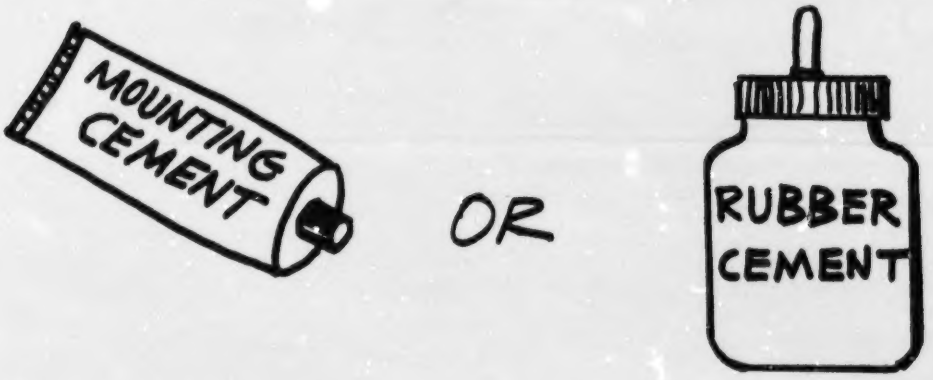
___ 7. The best way to tack the tissue to the print is—

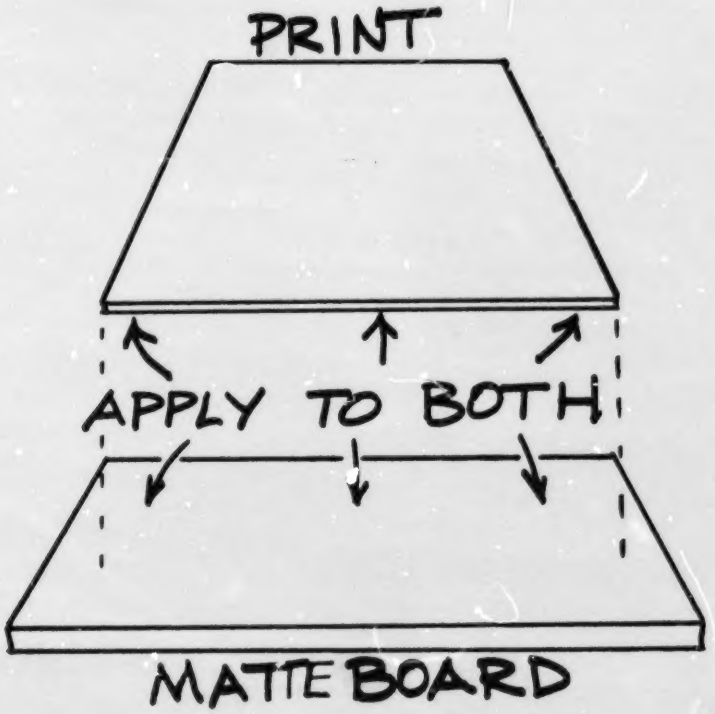
A. to make four melt marks that form a cross
B. to make four melt marks at each corner
C. to make four melt marks in a circle
D. to make four melt marks forming a "T"

___ 8. Tacking down more than two corners of the matte board is—

A. advisable
B. not advisable
C. the manufacturer's recommendation
D. the easiest method

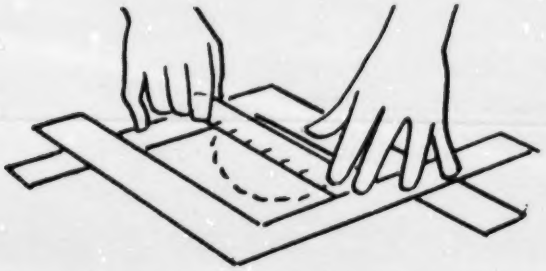
MOUNTING
USING MOUNTING CEMENT





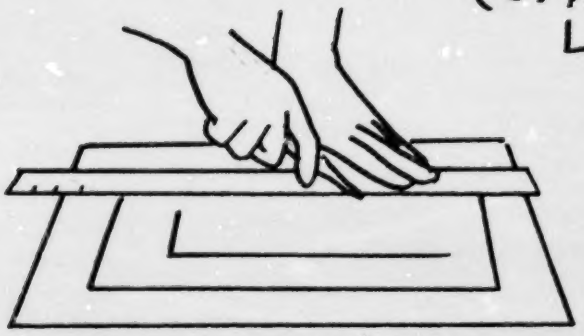
DRY MOUNTING

USING MOUNTING TISSUE AND A HEATING PRESS



(1) MEASURING

(2) MARKING LOCATIONS TO CUTS

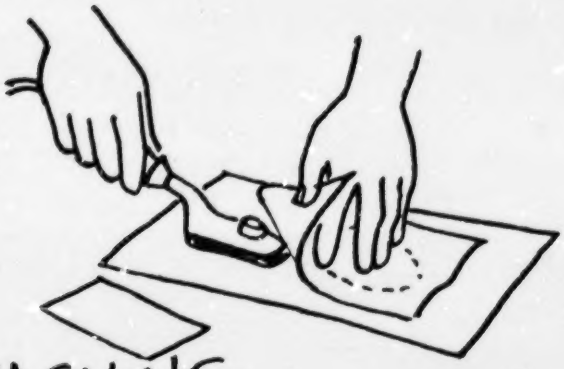


(3) CUTTING

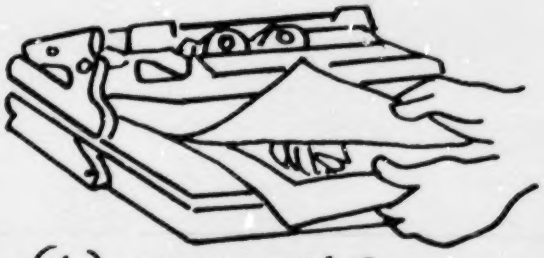
(4) MATCHING PRINT TO MATTE

DRY MOUNTING

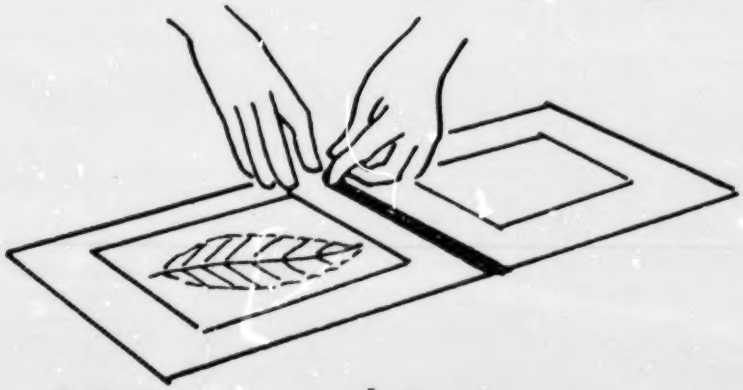
USING MOUNTING TISSUE AND A HEATING PRESS



(5) TACKING



(6) HEATING



(7) FRAMING

(8) FINISHED PRINT

10 Careers in Photography

OBJECTIVES

After students have covered the material in this unit, they should be able to—

1. explain the nature of the work done by a variety of specialized photographers; and
2. identify and explain the areas of photojournalism, freelancing, and specialty photography.

KEY WORDS: VOCABULARY

The words in the following list may be new to the student studying photography. Teachers should help students understand these words as they are used in this topic of study.

photojournalism
freelance photographer
commercial studio photographer
medical photography

TEACHING AIDS

- Overhead projector
- Pointer
- Also, see Appendices A, B, and C.
- Test Key: 1-D, 2-E, 3-C, 4-A, 5-D, 6-C, 7-D

SUGGESTED REFERENCES

The following references represent only a few of those available. Other sources of information can be obtained from the Eastman Kodak Company, 343 State Street, Rochester, N.Y. 14650, and Professional Photographer of America, Inc., 1090 Executive Way, Des Plains, Ill. 60018.

Careers in Photography: An Expanding World. Eastman Kodak Company, Rochester, N.Y., slide/tape, 21 minutes.

Cockrum, J. L. Photographer. EIMC, The University of Texas at Austin, 1979.

Discovering Underwater Photography. Eastman Kodak Company, Rochester, N.Y., 16 mm movie, 27 1/2 minutes.

Kerns, Robert L. Photojournalism: Photography with a Purpose. Englewood Cliffs, N.J.: Prentice-Hall, 1980.

The Kodak Newsletter for Professional Photography Instructors. ED3, Eastman Kodak Company, Rochester, N.Y.

Muse, Ken. Photo Two. Englewood Cliffs, N.J.: Prentice-Hall, 1977.

Occupational Outlook Handbook. Bureau of Labor Statistics, U.S. Department of Labor, Washington, D.C.

Professional Photographic Illustration Techniques. O-16 Eastman Kodak Company, Rochester, N.Y.

A Survey of Motion Picture, Still Photography, and Graphic Arts Instruction. T-17, Eastman Kodak Company, Rochester, N.Y.

SENTENCE OUTLINE

I. Introduction to job fields
   A. Photographic training and experience offer unlimited opportunities for employment as a photographer or in endeavors related to photography.
   B. Not everyone in the field of photography makes a living from behind a viewfinder.
   C. While thousands of jobs exist, the competition is keen. More is required for success than enthusiasm and talent.
   D. We will discuss the following professional fields within photography: advertising, fashion, and scientific photography. Other specialized areas that we will mention are travel, nature, industrial, medical, studio, editorial, and architectural photography.

II. **Photojournalism**
   A. Virtually every newspaper, news journal, and magazine across the country has photographers on staff. A wide variety of general and specialized publications, ranging from local weeklies in the suburbs to great national newspapers and magazines, are available.
   B. Photojournalists cover a wide range of activities. These vary from sports events, such as championship tennis, to violent battles like the Vietnam War, to such mundane events as a local beauty pageant.
   C. Salaries for those on a publications staff range from very low to a solid living wage, with the best in the busi-

ness doing substantially better.

D. It is important to remember that most photojournalists just getting started will receive the less exciting assignments. And almost all of them will be required to work some odd hours and overtime.

III. Freelance photography

A. Freelancing is another journalistic possibility. Unlike photographers on staff at a single publication, **freelance photographers** are independent workers. They must constantly seek markets for selling their work.

B. Most beginning freelancers spend as much time finding clients and assignments as they do actually taking pictures.

C. While staff position photojournalists are usually provided with darkroom facilities and all photographic equipment, freelancers are required to find and pay for their own. There is no job security, and there are no fringe benefits.

D. Freelancing can be divided into two broad categories. These are general freelancing and specialized freelancing.

E. General freelancing is not restricted to a specific topic or subject. The photographer covers any activity or event that he or she chooses.

F. Specialized freelancing is selecting any specific topic or subject and restricting the photographs to that topic. Such areas might be spot news, (such as crimes, accidents, and fires) or sports photography.

G. A freelancer may even specialize in a specific area. Take sports, for example. A person may want to specialize in contact sports, team sports, or individual sports.

IV. Specialty photography

A. Photographers who specialize in any of a number of fields (for example, architecture, food, fashions, or nature) are not at all limited to freelancing, although that is how most professionals get their start. They can operate a business with a fixed location.

B. Architectural, food, fashion, and nature photography are just a few examples of specialty photography.

C. Architectural photography is a broad and interesting field in itself, offering as it does the certainty of traveling to more or less distant places and having photographic access to sites of unusual significance. Some of this photography is done directly for architectural firms, so that their work may be followed through construction and readily shown.

D. Nature photography is another example of specialty photography. It is available to the talented, mobile, and enthusiastic young freelancer.

E. Some nature-oriented magazines (for example, National Geographic) maintain paid staffs, but most do not.

V. Fashion and advertising photography

A. Probably the most lucrative, and to some degree, most prestigious, photographic business opportunities are in fashion and advertising photography.

B. Jobs in fashion and advertising photography are found mostly in large business centers, such as New York, Chicago, and Los Angeles.

C. Both fashion and advertising photography are very competitive, high-pressure fields.

VI. Commercial studio photography

A. There are a variety of careers in studio photography, especially in portraiture and in more general commercial photography.

B. More professional photographers specialize in portrait and studio work than in any other area.

C. **Commercial studio photographers** are true generalists. They will photograph almost anything, anywhere, anytime, for any purpose. Subject matter runs the gamut—product photos, construction site illustrations, records of damage from accidents, crimes and natural disasters, aerial photography of all sorts, and so on.

D. In running a photography business on your own, you have to be able to handle all sorts of nonphotographic matters, including advertising and sales, insurance and legal matters, cash flow, taxes, depreciation, and supply maintenance.

E. Running your own studio offers many rewards to the individual who is industrious, aggressive, and versatile. There is the satisfaction of being

directly responsible for your own success and of doing what you enjoy at your own pace.

VII. **Medical photography**

A. One example of the many new fields emerging in photography is medical photography.

B. Most major hospitals have established departments of medical illustration and photography. This is because pictures of all sorts are required for use in medical publications, scientific exhibits, and the medical classroom.

C. Photographs also serve as visual notes for doctors. Being permanent records, they can be referred to repeatedly throughout the course of treatment.

D. To prepare for medical or biomedical photography, an individual should include a full course of study in anatomy, physiology, and pathology. Since the photographer must be familiar with the functions, abnormalities, and changes of an animal or human being, an extensive background is required.

VIII. Related careers

A. If you do not want to earn your income taking pictures, you have other options. Photographers require a variety of technical assistance services. Cameras and other equipment must be kept in repair. Busy photographers often resort to the use of commercial processing laboratories to develop and print their films. And commercial photographers, particularly portraitists, often use photo retouching services.

B. All sorts of supply and sales organizations serve the needs of photographers. These enterprises employ people who have useful backgrounds in photography.

C. Many camera stores will hire only salespeople who have experience in photography.

D. Photo researchers at magazines and book publishing companies determine what pictures would best accompany a given text. Then they go about getting those pictures.

E. Almost every publishing enterprise employs editors and designers to choose and present illustrations in published works. Advertising agencies often need people who are familiar with photography to plan and accomplish their pictorial ends. And photographers themselves often make use of knowledgeable agents to assist them in marketing their pictures.

F. Teaching photography is yet another career option. It offers reasonable financial security, direct involvement with photography and photographers, and an opportunity to have some influence on the coming generation of photographers.

G. Other photographic specialties are—

(1) aerial photography;
(2) military photography;
(3) underwater photography;
(4) educational photography (preparing slides, filmstrips, and movies for use in the classroom); and
(5) science and engineering photography (the development of photographic techniques for use in space, medicine, or biological research).

The following information provides a sample of occupations, their functions, and related job duties. More information may be obtained from:

Occupational Outlook Handbook
Bulletin 2075, 1982-83 Edition
Bureau of Labor Statistics
U.S. Department of Labor
Washington, D.C.

JOB TITLE: **Aerial Photographer** D.O.T. No.: 143 062 014

Major Job Functions:

Photographs segments of earth and other subject material from aircraft to produce pictures used in surveying, mapping, and for related purposes, such as recording effects of pollution or natural disasters, determining condition of crops and timberland, and planning cities or other large-scale projects.

Job Duties:

1. Sets up and mounts camera in aircraft.
2. Confers with pilot regarding plotted course, speed, altitude, and area to be photographed.
3. Communicates with pilot during flight to ensure adherence to flight plan or makes adjustments to equipment to compensate for changes.
4. Calculates number of exposures and time lapse between them, using standard formulas to determine requirements for adequate area coverage.
5. Adjusts camera shutter speed, lens aperture opening, and focus.
6. Adjusts automatic exposure interval on camera equipped with time lapse control or times intervals with stopwatch and manually trips shutter.
7. Maintains camera in level position and oriented to flight path when making photographs for mapping or surveying.

JOB TITLE: **Still Photographer** D.O.T. No.: 143 062 030

Major Job Functions:

Photographs subjects using still camera, color or black-and-white film, and a variety of photographic accessories.

Job Duties:

1. Selects and assembles equipment according to subject material, anticipated conditions, and knowledge of function and limitations of various types of cameras, lenses, films, and accessories.
2. Views subject and setting and plans composition, camera position, and camera angle to produce desired effect.
3. Arranges subject material, poses subject, or maneuvers into position to take candid photo.
4. Estimates or measures light level, using light meter, or creates artificial lighting with flash units, lights, and lighting equipment.
5. Adjusts lens aperture and shutter speed based on combination of factors, such as lighting, depth of field, subject motion, and film speed.
6. Determines subject-to-lens distance, using tape measure, rangefinder, ground glass, or reflex viewing system to adjust focus.
7. Positions camera and trips shutter to expose film.

JOB TITLE: **Photographer** D.O.T. No: 143 062 034

Major Job Function:

Photographs people, events, locations, or other illustrative or educational materials for amusement and recreation or for use in publications or telecasts, using still cameras.

Job Duties:

1. Travels to assigned location and takes pictures.
2. Develops negatives and prints film.
3. Submits negatives and pictures to customers or to editorial personnel.
4. Takes portraits, using lighting arrangements to achieve different effects.
5. Works in studio or may go to home of individual to make a special portrait.
6. May specialize in one phase of photography, as news, sports, or special features, or as a freelance photographer.

JOB TITLE: **Finish Photographer** D.O.T. No.: 143 382 014

Major Job Function:

Operates photographic equipment to photograph finish of race.

Job Duties:

1. Loads film into camera and advances to picture-taking position.
2. Sights camera on finish line and adjusts exposure controls and focus.
3. Observes race and starts camera as contestants approach finish line.
4. Stops camera after last contestant has crossed finish line.
5. Removes exposed film from camera and places it into film-developing machine that automatically develops film.
6. Prints and enlarges photographs used to determine winner of race when finish is close.

JOB TITLE: **Quality-Control Technician** D.O.T. No.: 976 261 010

Major Job Function:

Examines photographic prints, processed film, cameras, and other photographic equipment for defects or faulty operation to determine course of action required to satisfy customer complaints.

Job Duties:

1. Reviews unresolved requests for adjustment of complaints and reads customer comments to determine basis of complaints and plan of action needed to resolve complaint.

2. Spreads negatives and prints on illuminated worktable and uses magnifying glass to detect defects, such as incorrect coloring, shading, or cutting.
3. Determines cause of defect and type of correction required based on knowledge of photo processing and finishing techniques.
4. Prepares memorandum to processing department and confers with supervisor to suggest remedies to prevent subsequent errors in processing.
5. Contacts customer to explain causes for defects and confers with sale-service personnel to resolve technical questions and to demonstrate correct usage of photographic equipment.
6. Prepares reports indicating complaints handled and dispositions made.

JOB TITLE: **Color-Printer Operator** D.O.T. No.: 976 382 014

Major Job Function:

Controls equipment to produce color prints from negatives.

Job Duties:

1. Reads customer instructions to determine processing requirements.
2. Loads roll or magazine of printing paper into color printing equipment.
3. Examines color negative to determine equipment control settings for production of prints meeting acceptable color-fidelity standards.
4. Sets controls in accordance with examination, loads negative into machine, and starts machine to produce specified number of prints.
5. Removes printed photographic paper from machine and places paper in film bag for further processing or in developing machine.
6. Inspects finished prints for defects, such as dust and smudges, and removes defects, using brush, cloth, and cleaning fluid.
7. Inserts processed negatives and prints into envelope for return to customer.

JOB TITLE: **Film Developer** D.O.T. No.: 976 382 018

Major Job Function:

Operates machine to develop still or motion-picture film.

Job Duties:

1. Pulls filmstrips through trap door into darkroom.
2. Examines film to determine type of processing required, using knowledge of film-developing techniques.
3. Feels edges of film to detect tears, and repairs film using hand stapler.

4. Mounts film in guide slot of developing machine according to length of time required for processing and pulls lever to lower film into processing position.
5. Flips switch to start machine that transports film through series of solutions and into drying cabinet to develop and dry film.
6. Observes film passing through machine to determine density of image and adjusts machine controls to shorten or lengthen path of film through solutions according to observation.

JOB TITLE: **Black-and-White Printer Operator** D.O.T. No.: 976 682 014

Major Job Function:

Operates printer to produce black-and-white photographic prints from negatives.

Job Duties:

1. Mounts roll of sensitized paper on spindle of printer and threads paper through guides, rollers, and onto take-up spindle.
2. Prepares batch identification sheet, positions sheet in printer, and activates printer to transfer information from sheet to sensitized paper.
3. Prints identification number on customer envelope, using stamping machine.
4. Removes negative strip or single negative from envelope and cleans negatives to remove dust particles, using air blower or gloved finger.
5. Inserts negative in printer and examines image to determine whether picture setting is indoors or out-of-doors.
6. Activates printer and adjusts control knobs to produce photographic prints of required shading and density.
7. Places printed roll in envelope and seals envelope to prevent exposure to light.

JOB TITLE: **Automatic Print Developer** D.O.T. No.: 976 685 026

Major Job Function:

Tends one or more machines that automatically develop, fix, wash, and dry photographic prints.

Job Duties:

1. Threads leaders (paper strips) around rollers, through processing tanks and dryer, around polished drum, and onto take-up reel.
2. Turns valves to fill tanks with premixed solutions, such as developer, dyes, stop baths, fixers, bleaches, and washes.
3. Moves thermostatic control to keep steam-heated drum at specified temperature.
4. Splices sensitized paper to leaders, using tape.
5. Starts machine and throws switches to synchronize drive speeds of processing and drying units.

6. Compares processed prints with color standard and reports variations to control department.
7. Adds specified amounts of chemicals to renew solutions.
8. Maintains production records.

JOB TITLE: **Camera Repairer**

Major Job Function:

Repairs and adjusts cameras, using specialized tools and test devices.

Job Duties:

1. Disassembles camera, using hand tools.
2. Tests and aligns diaphragm, lens mounts, and film transport to minimize optical distortion, using precision gauges.
3. Adjusts range and viewfinders, using fixed focusing target.
4. Calibrates operation of shutter, diaphragm, and lens carriers with dial setting, using electronic or stroboscopic timing instruments.
5. Fabricates or modifies parts, using bench lathe, grinder, and drill press.

MATERIALS FOR STUDENTS

- Newspapers, magazines
- Photographic catalogs

SUGGESTED STUDENT ACTIVITIES

1. Have students make a survey to determine the number of newspapers and magazines published in the immediate area. Students may want to find out how many photographic-related occupations exist within each newspaper and/or magazine company.
2. Have students conduct research on new jobs that have been created through new businesses or industries.
3. Invite a resource person or panel of resource people to discuss the types of work done in their jobs, labs, and so on.
4. Investigate the investment in photographic equipment needed by a person who is starting in one of the various photographic occupations.
5. Discuss safety in relationship to the various occupations that might be more hazardous than others.
6. Take a field trip to a photographic processing business, and observe the technicians at their work.
7. View training films or other visuals provided by manufacturers on the various opportunities available in the field of photography.
8. Conduct a survey in the various photographic occupations to determine any trends in the increasing roles and responsibilities in each of these fields.
9. Organize a class discussion on the advantages and disadvantages of being a photographer for a news publication rather than working in a portrait studio, or use other comparative occupations.
10. Identify nearby post-secondary institutions that provide courses and training in photography. Survey curriculum offerings or have a representative come and speak to the class.
11. Have students collect samples of photographic work from the various types of photographic occupations (for example, medical, advertising, and so forth).

Vocabulary Worksheet

1. photojournalism

2. freelance photographer

3. commercial studio photographer

4. medical photography

TEST

Unit 10: Careers in Photography

Directions: Read each statement carefully. Select the one word or phrase that correctly answers or completes the statement, and write the appropriate letter in the blank.

Example: _C_ 21. The class you are now attending is—

A. American Government
B. Language Arts
C. Industrial Arts
D. General Science

___ 1. Photojournalists work for—

A. newspapers
B. magazines
C. news journals
D. all of the above

___ 2. Freelancing is the —

A. same as photojournalism
B. term for an independent photographer
C. term for an advertising photographer
D. term for a medical photographer

___ 3. Freelancing can be divided into two categories. These are—

A. free and lancing
B. journalistic and nonjournalistic
C. general freelancing and specialized freelancing
D. advertising and medical

___ 4. Jobs in fashion and advertising photography are located in—

A. large business centers primarily
B. almost any city
C. only cities with photography schools
D. all of the above

___ 5. Commercial photographers—

A. work only in studios
B. take photographs for commercials
C. work for newspapers
D. are usually generalists, in that they work on different subjects in various locations

___ 6. Medical photography involves—

A. photographs of medicine
B. doctors who are photographers
C. the use of photographs in any and all areas of medical technology
D. the use of biomedical technology

___ 7. Examples of related careers in photography are—

A. selling photographic equipment
B. repairing photographic equipment
C. working in photographic processing plants
D. all of the above

11 Computer Applications in Photographic Technology

OBJECTIVES

After the students have covered the material in this unit, they should be able to—

1. explain the relationship of computers to photography; and
2. give examples of how computers are used in photography.

KEY WORDS: VOCABULARY

The words in the following list may be new to the student studying photography. Teachers should help students understand these words as they are used in this topic of study.

computers	shutter priority
microprocessors	aperture priority
automatic focusing	programmed mode
automatic metering systems	robotics

TEACHING AIDS

- Overhead projector
- Pointer
- Also, see Appendices A, B, and C.
- Test Key: 1-C, 2-A, 3-D, 4-C, 5-A, 6-D

SUGGESTED REFERENCES

Jones, Ronald F. Focus on Photography. New York: McGraw-Hill Book Company, 1981.

Maughan, George R., et al. Getting the Message: The Technology of Communication. Worcester, Mass.: Davis Publications, 1981.

SENTENCE OUTLINE

I. **Computers** and the camera
   A. In today's high-technology world, computers are used in every field, including photography.
   B. The most commonly used computers in photography are small computers, called **microprocessors.** These are used in cameras (see Appendix B).
   C. Microprocessors enable persons taking pictures to be able to concentrate on that task. They don't have to worry about the settings on the camera and missing all the action through the lens.
   D. The most common features that a microprocessor provides in an advanced, automatic camera are:
      1. **automatic focusing**
      2. **automatic metering systems**
   E. Just as the name implies, a camera that has automatic focusing capabilities allows the photographer to have sharp, crisp pictures because the camera automatically adjusts the lens to focus on the subject as the shutter opens.
   F. Automatic metering systems are available in three modes:
      1. **shutter priority** setting
      2. **aperture priority** setting
      3. **programmed mode**
   G. Using a shutter priority mode, the photographer is able to select a specific shutter speed.
   H. During the exposure reading, the camera automatically selects the right aperture for that shutter speed.
   I. Any fast action, as in sports photography, is easy to shoot using the shutter priority setting.
   J. By selecting a shutter speed that's fast enough to stop the action, the photographer can concentrate on composing while letting the camera compute the metering.
   K. The aperture priority mode permits the person taking pictures to select a particular aperture setting.
   L. The camera automatically selects the correct shutter speed during the exposure reading.
   M. The aperture priority setting offers advantages in two areas: (1) shooting still subjects and (2) portraits.
   N. A slow shutter speed allows the photographer to concentrate on the composition, such as in an architectural subject or a portrait setting.
   O. The programmed mode is a completely automatic setting.
   P. The shutter speed and aperture settings are controlled by the microprocessor in the camera.
   Q. The computerized metering system considers the speed of the film, the ASA/ISO, and the amount of illumina-

tion in computing the correct exposure.

R. The computerized camera is able to select the shutter speed first. Then the aperture settings are checked from stopped down to wide open.

S. If the wide-open aperture setting does not allow enough light for correct exposure, the camera automatically selects the next slower shutter speed.

T. It then checks the aperture sequence again.

U. It will continue to do this until it finds the correct exposure combination.

II. Computers in the darkroom

A. Computers are also used in the darkroom.

B. Just as in cameras, the most common computer used in the darkroom is the microprocessor.

C. Almost every piece of electronic equipment used in the darkroom makes use of the microprocessor.

D. The main piece of equipment in the darkroom, the enlarger, uses a microprocessor to determine aperture and exposure settings to properly expose the photographic paper.

E. An enlarger with an optional microprocessor is usually referred to as an enlarger with an analyzer. It functions in much the same way as an automatic camera.

F. Other pieces of equipment in the darkroom that include microprocessors are the timer, the timing clocks, the contact printer, and the focusing aids.

III. Computers in the photographic industry

A. Usually, when you take your undeveloped film in to have it processed and made into prints, the film is processed automatically, without anyone touching or seeing it.

B. After the film has been developed, the prints are made automatically by a machine much like an enlarger, but without the aid of a person to decide on the settings to use.

C. This is all accomplished through the mechanism of automated, computerized equipment, sometimes known as **robotics**.

D. The machines are programmed to do all the processing and have the capabilities for making any needed adjustments as in color, and so on.

E. This enables you to pay less for the processing, and you receive your prints much sooner.

F. Professional photographers, especially studio photographers, use microprocessors housed in control units. These units are used in the studio to create the correct lighting for subjects, backgrounds settings, and any number of special effects.

G. Many creative effects may be accomplished through the use of microprocessors in photographic camera and darkroom.

SUGGESTED STUDENT ACTIVITIES

1. Have a camera representative come to the class and present information on computers and their relationship to photographic equipment.
2. Have students identity the camera controls that are affected by a computer or microprocessor (include shutter priority, aperture priority, programmed mode, overexposed control, and so on).
3. Have the students conduct library research on photography as it relates to computers, lasers, and high technology.
4. Make a field trip to a computerized lab.

Vocabulary Worksheet

1. computers

2. microprocessors

3. automatic focusing

4. automatic metering systems

5. shutter priority

6. aperture priority

7. programmed mode

8. robotics

TEST

Unit 11: Computer Applications in Photographic Technology

Directions: Read each statement carefully. Select the one word or phrase that correctly answers or completes the statement, and write the appropriate letter in the blank.

Example: D 21. The class you are now attending is—

A. Health
B. English
C. Science
D. Industrial Arts

___ 1. Computers that are used in photography are usually called—

A. Xerox
B. IBM
C. microprocessors
D. photoprocessors

___ 2. The two most common computerized features on an automatic camera are—

A. automatic focusing and metering systems
B. speed and slow-motion settings
C. filter and color corrections
D. angle and horizontal corrections

___ 3. An automatic metering system has all of the following, except—

A. shutter priority
B. aperture priority
C. programmed mode
D. focal plane mode

___ 4. The most common computer used in the darkroom is the—

A. Xerox
B. IBM
D. microprocessor
D. photoprocessor

___ 5. An enlarger that uses a computer is generally referred to as an—

A. enlarger with an analyzer
B. enlarger with a brain
C. enlarger with a timer
D. enlarger with a program

___ 6. Other equipment in the darkroom that might use computers are—

A. the timer and timing clocks
B. the contact printer
C. focusing aids
D. all of the above

Appendix A
Cinema/Movie Techniques

Formats

Three film formats can be used for movie films. These are:

16 mm. Primarily a professional film, this is used for television reporting and other documentary filming. The film is usually used in 100-foot reels, and it is relatively expensive for amateur use. Cameras are complex and expensive. They may have one lens, three lenses on a turret, or a zoom lens.

8 mm. An 8 mm film is nothing more than an actual 16 mm film that is split in half at the time of processing. A 25-foot reel of 16 mm film is exposed on half its width in an 8 mm camera. The film reel is then flipped over and run through the camera again to expose the other half of its width.

Regular 8 mm film was the first widely used amateur film format, but it was very awkward to use because of the midroll flipover and the threading of sprockets. The quality of the projected image was relatively poor. A good deal of low-cost, used 8 mm equipment, however, is on the market. Cameras may have one lens, three lenses on a turret, or a zoom lens.

Super 8 mm. A vastly improved 8 mm format, super 8 mm was developed in 1964 to boost sagging movie camera sales. The film is single-width and packaged in an easy-loading cartridge. The format has about 50 percent more image area than regular 8 mm, and renders tremendously improved detail and brightness. Format dimensions are proportioned to 16 mm, permitting print films to be made from one format to another. Good cameras with a zoom and automatic exposure are available at reasonable prices.

Most 16 mm and 8 mm cameras produced in the past were spring powered; you wound them up like a toy car. Current models are battery-powered.

Film Types

Black-and-white movie film is available, but rarely used in super 8 mm movies. It usually costs about the same as color film, but commercial processing is difficult to obtain.

The most commonly used film is Type A color transparency. This film is balanced to give proper color balance under 3,400 K lamps. For use outdoors under sunlight, a No. 85 conversion filter is added to eliminate the excess blue light. This gives some loss in ASA/ISO, but it is no handicap under the bright sunlight.

Kodachrome II-A is a popular film with an ASA/ISO of 40 under 3,400 K lamps and an ASA/ISO of 25 with a No. 85 filter under sunlight.

The cinema version of Ektachrome is also available for low-light situations. Super 8 cartridges have a notch system that automatically sets the ASA/ISO of a camera's built-in meter.

Camera Speed

Camera speed is the speed at which the film is run through the camera. The motion of the motion picture camera is so rapid that the film seems to move through the camera without ever stopping. Actually, however, the action is intermittent.

A mechanism engages the perforations at the side of the film, called sprocket holes, and pulls the film into position to be exposed.

The film is held still at this point while the shutter of the camera opens and lets the light in to expose the film. As soon as the shutter closes and blocks off the light again, the mechanism reengages the film and pulls it down just one more picture length. Then the camera is ready to expose the next picture, or "frame."

If the film does not hold still the entire time the shutter is open and the light is coming into the camera, the image will be blurred and streaked.

There are 40 frames to a foot of 16 mm film, 80 to a foot of regular 8 mm film, and 72 to a foot of super 8 mm film. So when you shoot your super 8 mm movie camera, a still picture is exposed 72 times every time you run off one foot of movie film. You make 18 of these still pictures every second your super 8 camera is taking movies. It is important to test your particular camera to determine its running time.

Scenes and Sequences

Movies tell stories in groups of scenes called sequences. Continuity is achieved by shooting scenes that are linked together in a story-telling sequence so the viewer can follow an uninterrupted line of thought.

Each scene within a sequence is related to the following sequence, or else a special effect, title, or narration is needed to cover up the jump in continuity.

Editing Film

Too many beginning moviemakers consider the film they get back from the processing laboratories to be ready for projection. Professionals, on the other hand, let you see only one-third or less of the film they have shot. The remainder is cut. Professionals don't usually show other people their goofs. So it's no wonder that their results look better.

To do a proper job of editing, you need a film splicer and cutter. In editing, the length of scenes has a definite effect on the tempo of your film. You must try to sense when the audience has seen enough. Extra-long scenes should be avoided.

Other Topics

Depending on the time available for studying cinema techniques, the following areas should be identified and discussed:

- equipment: tripods, cameras
- panning
- titling films
- screen direction (direction in which the subject travels across the screen when a movie film is projected)
- cutaway shots (smoothing out the flow of action)
- application of cinema techniques to video

Appendix B
What the Future Holds for Photography

1. A sudden proliferation of innovative equipment has changed the look of both cameras and the images they produce.

2. The Sony Mavica, a filmless camera, takes color stills that can be viewed on a TV set. This process is a Japanese invention, and the camera comes with a storage packet that receives and stores images.

3. Since the camera uses no photographic film, its pictures require neither developing nor chemicals.

4. Instead, the image is electronically recorded on a light-sensitive device housed at the back of the lens. Then it is transferred to a removable magnetic memory pack.

5. The reusable pack can be viewed immediately on any TV set connected to a playback component.

6. If desired, prints can also be made by inserting the pack's information into a nonchemical printer.

7. The filmless camera, which has been in the works for eight years, will be more expensive than conventional cameras. But its price will be lowered as various companies enter the market.

8. Other new products, some tested and proved and some experimental, include the first mass-produced three-dimensional (3-D) camera, instant 35 mm transparencies, and even still pictures that record the sounds of their subjects.

9. For 13 years, scientific entrepreneurs have been working to develop an affordable 3-D camera that would not require special viewing equipment. The 3-D camera gives the illusion of depth or varying distances.

10. The result is a 35 mm, all-plastic camera featuring four matched lenses.

11. Each click of the shutter exposes four half-frame negatives.

12. After normal processing, these are fed into a computer-printer that converts them into a single image.

13. An optical coating with microthin grooves fools the eye into seeing the picture in depth.

14. One of the latest innovations to be introduced is the Eastman Kodak Disc Camera.

15. The disc camera represents the latest step in foolproof, no bother photography.

16. Powered by a permanent six-watt lithium battery, the camera automatically selects the correct shutter speed and exposure, activates a built-in flash, if needed, advances the film, and recharges itself. This whole process occurs within less than a second.

17. The most innovative feature of the disc camera is the round, wafer-thin film that gives it its name.

18. By putting unexposed film on flat discs rather than on traditional rolls with their accompanying cartridge, Kodak engineers created a camera with no protruding film chambers.

19. The result is a camera the size of a wallet that can be loaded in about five seconds. It is expected to provide sharper pictures than roll film.

20. In the future, Kodak may produce a system that will permit images from the disc to be viewed on a TV set.

Appendix C
Audiovisual Programs

All of the programs can be borrowed, free of charge, on a short-term loan basis. You pay only postage for returning them to Kodak. Send your requests to:

Audiovisual Library
Eastman Kodak Company
343 State Street
Rochester, New York 14650

Kodak will mail you an acknowledgment of your request and a request form for future use. Programs are scheduled on a first-come, first-served basis. Since there is a limited number of copies of each program available, we suggest that you order programs at least four weeks before your show (eight to twelve weeks during the busy fall and winter months) to give the company time to fill your request. Programs may not be ordered more than 11 months in advance. You should receive the program about two days before your scheduled show. A program listing follows. (Some programs are listed more than once.)

Photographic Subjects

Photography—How It Works (movie)
The Film/Paper Story (movie)
Film—How It Works (slides)
Basic Picture-Taking Techniques (slides)
The Beginnings of Photographic Composition (slides)
Advanced Camera Handling (slides)
Photo Reports Make It Happen (slides)
Better Pictures by Existing Light (slides)
Processing Black-and-White Film (slides)
Beginning Black-and-White Printing (slides)
Advanced Black-and-White Printing (slides)
Color Printing from Color Negatives (slides)
Basic Moviemaking (movie)
Discovering Underwater Photography (movie)
Holland—A Garden of Pictures (slides)
How Winning Teenage Movies Are Made (movie)
Travel Movies—Travel Scandinavia (movie)
Watch It (movie)
Careers in Photography—Expanding World
Photographing People
Series 35, An Introduction
Creative Use of Lenses, 535
Imaginative Use of Filters, 535

General Interest

Discovering Underwater Photography (movie)
Holland—A Garden of Pictures (slides)
How Winning Teenage Movies Are Made (movie)
More Than Photography—A Visit to Eastman Kodak Company (movie)

Images for Imagination (movie)
America's Junior Miss Program (movie)

Travel and Scenic

Canada—A Holiday in Pictures (movie)
Caribbean—Picture Treasures (movie)
Faraway Places—In Pictures (movie)
Florida—For Fun and Pictures (movie)
Fun and Pictures in the Southern Highlands (movie)
Hawaii—The Picture Islands (movie)
Leisureland—U.S.A. (movie)
Portrait of a City—Washington, D.C. (movie)
South Pacific—Picture Paradise (movie)
Travel Movies—Travel Scandinavia (movie)

Sports

Discovering Underwater Photography (movie)
Kodak All-American Football Team (movie)
Kodak Women's All-America Basketball Team (movie)
Watch It (movie)
Cross-Country Experience with Bill Koch (movie)